Timex Sinclair User Group Newsletter

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Ottawa Chapter
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Meetings

LOCATION: All meetings are held at the NRC bldg. 100 Sussex Dr. Room 1129B. Check in with security.
TIME: Meetings are held at 8:00 p.m. on the last Thursday of each month unless otherwise posted.
FORMAT: Each meeting will take the following format:
---President's address and intro of new members.
---Software Review (maximum 20 min.)
---Hardware Review (maximum 20 min.)
---Adjournment of formal part of meeting.
---Informal: members dicuss common problems, swap programs etc.....

PRESIDENT'S ADDRESS

With the cold weather rapidly approaching and the BBQs, broads, and booze just fond memories, most of you will be dusting off yor computers for another season of bits, bytes and bewilderment. Those few dedicated souls who attended the summer sessions will have to help the foggy-eyed snowbirds to come up to speed.

My thanks to Bob Mulder for taking the chair at the September meeting. I understand that there was a record turnout. (Is there message there?) Sorry I couldn't be in attendance; my daughter unceremoniusly dumped me into the "Golden Age" zone with an eight pound grandson.

Congratulations to Roger Glover and Victor Shideler as the new software and hardware group leaders respectively. A hearty round of applause to Russ Evoy and Jim Hodgson for yoeman service during their tenure. The club has benefitted immensely from your efforts and will be looking forward to additional contributions we know you will make to the club as members at large.

Thanks are also extended to Mike Dowe Jim Turner and Bob Mulder for their contributions at the August and September meetings.

The response to the software contest has been less than enthusiastic considering that it has been underway for over two months. This contest is an excellent way to share your skills with other club members with the added bonus of becoming eligible to win a cash prize. Polish up that program you've been working on and enter the contest. If the membership so desires, the contest end date can be extended to provide for more time.

No one has come forward with a lead on a TV set for the club; please keep trying as it would greatly facilitate software and hardware presentations. A 16K rampack would also be most helpfull.

If anyone is considering the purchase of a BYTE BACK modem for their 2068's I would suggest you wait for a couple of months until BYTE BACK's teething pains are over. I have not been impressed with the service I've received todate. I purchased a kit that contained a defective chip and the unit had to be returned for repairs. My 25 dollar deposit has still not been returned because of sloppy bookkeeping and the Smart Terminal software is still not available although I ordered the kit in May of this year. At the moment the unit will only operate with 7 bit-no-parity stations who are few and far between.

We need someone to set up our software and hardware technical literature and I understand that two individuals have proposed to establish just that. May I suggest that David Solly and Derek Chapman develop their proposals to the best of their abilities and present them to the club at the next meeting or place them, fully documented with examples if possible, in the next issue of the newsletter. That way the group can make a valued decision on the best method or system available.

I will conclude by saying: Let's make this a banner year by everybody participating in the activities of the club. Next to the COMMODORE group we are the largest, so let's show the others that cost doesn't necessarily mean quality.

John Mathewson, PRES.

LETTERS to the EDITOR

I would like to take this opportunity to use the newsletter to thank the members for electing me as their software representative on our users group executive.

My predecessor set a high standard which is going to be a hard act to follow and I will need as much support and co-operation as you, the membership, can give.

I will be calling on you from time to time for topic suggestions, demo assistance and general support. Please be ready to help.

I look forward with enthusiasm to an exciting, informative and stimulating year.

Yours sincerely,
Roger Glover

FOR SALE

(For T51000 or ZX-81's)
Memotech HRG package
complete with instructions, rarely used.
$50.00 ..contact R. Mackay
Tel: 994-1881

Don't worry folks, there's another one....
Memoteck HRG package with instructions. Fully tested.
$50.00 ..Contact R. Mulder Tel: 992-2171.

For those prospective buyers of the HRG units, there is absolutely nothing wrong with the hardware. They function as advertised. the owners have moved to the 2068 machines.

A NOTE FROM THE U.K.

I had occasion to visit several computer retail dealers in the U.K. during May.

Prices for all the Sinclair hardware and software remain stable and have not been influenced by the withdrawal of Timex. Software is primarily for the Spectrum and was fairly extensive. In response to specific enquiries I was told that the first QL equipment was available with a BLACK box attachment. These modules are subject to later modifications by Sinclair Research to meet promised specs. In the dealer's opinion, the equipment was good but will not be compatable with peripheral equipment supplied by other manufacturers.

The dealers are looking forward towards a good acceptance of the new Sinclair product by the U.K. public.

It should be noted that Sinclair products are for sale in most European countries.

Ray MacKay

I almost forgot to include this item in the newsletter. If you may recall on behalf of the group and at some expense I wrote to a number of overseas user groups. You may also recall that I received return correspondence from South Africa. I have now been notified that my letter, word for word, to the ZX users group in England appears in the latest issue of the British ZX COMPUTING.

There is one minor hitch however, they FORGOT TO PRINT OUR ADDRESS. How can someone respond to us without having an address other than Ottawa/Hull?

In any event I will write to them again to publish our full mailing address. I am sure you understand that this is one means to obtain quality software and possibly hardware support. More later.....

The Editor

GENERAL

ELECTRONIC BBS

Sorry no progress todate. I had other priorities such as my wife and kids. (Good Lord, who are they?)

I will return to active development with the Baskerville BBS shortly.

The Editor

COMPATABITITY

The membership should be aware that although the software for both the TS 1000's/ZX-81's and the 2068's seems to have virtually dried up, there is still a vast supply of current and new software and hardware support available. The only rub is that it is only available from the U.K. and that no 2068 support is evident.

However there are enormous benefits none the less. As far as the TS 1000's/ZX-81's are concerned, the software is cheaper even with the exchange and is there in quantity. As well there is a continuing hardware support. All this and compatability as well.

For the 2068's there is a "ROMSWITCH" which gives an advertised 99% compatability to the Spectrum. This device enables you to "Switch" between 2068 and Spectrum. An order has been placed for a number of these devices and as soon as they have been fully tested with some specific Spectrum software, I am sure that we will discover a good compatability. So do not dispair, it is all available now.

As our President is most dedicated to our group and its continued existance and is a Dealer of software in his own right ;"JM SOFTWARE", I am reasonably sure that he will provide us with the necessary aquisition services if enough orders by the membership can be placed. Lets all stick together to make this work.

The Editor Roelof Mulder

P.S. This is not to say that there is no support available from the U.S.A., on the contrary. If you wish to know what is available please contact me through the mails and I will attempt to provide you with a list of both hardware and software supporting companies in the States.

A number of hardware and software companies have sent their ads to me to let us know that there is support for us out there. To be fair I have listed them below:

GAMES TO LEARN BY
P.O BOX 575
2 SOUTH STREET
WILLIAMSBURG,MASS. 01096
software and hardware support for both TS1000 and 2068

G.RUSSEL ELECTRONICS
RD 2. BOX 539
CENTER HALL,
PA, 16828
Mostly hardware support for both machines

COMPUSA CORP.
1101 BRISTOL RD.
MOUNTAINSIDE, NEW JERSEY
07092
Mainly hardware support for the TS 1000's

W.J.M. DATA SYSTEMS
4 BUTTERFLY DRIVE.
HAUPPAUGE, NEW YORK
11788
Software for both machines (extensive)

COMPROCSYS LTD.
29 CAMPDEN RD.
SOUTH CROYDON,
ENGLAND CR27ER.
ROM Assemblers (ASZMIC & S.P. ROMS)

For indepth information write to the newsletter and a full profile will be given.

THE EDITOR

4th CORNER

In the last issue (ie..Vol 1,#3) sreens 1 thru 4 were presented for the Multi-tasking facility. To finalize the process you will now find screens 5 to 6. By the way, if you do not have "PICK" as one of your system words, you will have to write one in high level forth to take a number off the stack and use it to point and retrieve that item number from the stack. I.e. 4 PICK would take the fourth number from the stack.

```
SCREEN#5
0 (multi-tasker,cont.)
1
2   tasker  max-tasks 0 do
3 i 2* task-list + @ ?dup if
3    ( save  current  cursor  position  in
case )
4     ( background  task  must  write  to
screen )
5 save-cursor execute restore-cursor
6 else leave
7 then
8 loop
9 ;
10
11
12
13
14
15 --->
```

```
SCREEN#6
0 ( multi-tasker, cont. )
1
2 ( read character from keyboard)
3 ( stack effect. ---b )
4 : key  begin
5    tasker
6
7       ?terminal
8
9    until
10 user-key @ execute ;
11
12
13
14
15
```

END MULTI-TASKER

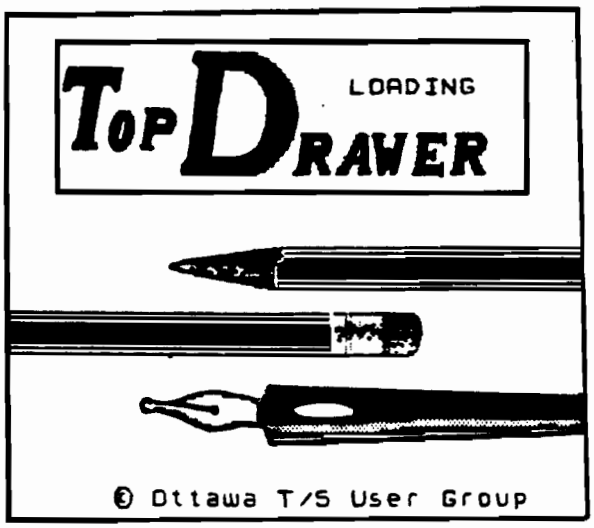
Next issue I will illustrate a one screen load RAM-DISC facility that stores up to 10k of 512 byte screens in memory, then saves to tape in one flush or store. This facility is TREE-FORTH dependant, however my idea in presenting it is to see if someone can convert to their system be it Arctic or Forth Dimentions or for that matter Texas Instruments.

.....More to follow....

ROELOF

Software Review

As some of you are aware, Jim Turner presented a software program that he designed and implimented on his own. This program is a utility graphics program called :



In essence this program enables you to design a screen page or for that matter portions of a screen to use in other programs you may wish to develop. To state some of the built in facilities the program supports: circle,dot,air brush,fill,rectangle,erase,line,grid,map etc....

In essence this program is well designed and presented as the title page suggests. All functions work as advertised and are used without any fuss about setting co-ordinates or other such nonsence. There are only two set-backs if you can call them that, that is, in some cases the execution of a function such as ellipse takes a considerable amount of time and you presently require a joystick to run the program. As far as I am concerned neither of these should be cause for concern. Remember that with the exception of two short machine code sections the rest of the program is done entirely in Basic.

One other thing that should be stated is that this program is NOT for sale, as a matter of fact Jim Turner has dedicated this program to our users group free of charge. (cost of cassette excluded)

Without further bantering about... CONGRATULATIONS Jim Turner for a job well done and for the spirit, drive and dedication to the group you have shown. This is exactly the type of service that we would like to see more of.

THE EDITOR

Personals

```
 10 REM      AUTO RECORD
 20 REM
 30 REM THIS PROGRAM WAS
 40 REM DESIGNED TO HANDLE 100
 50 REM RECORDS. IF THIS IS TOO
 60 REM SMALL FOR YOU, AND IF
 70 REM YOU HAVE THE MEMORY
 80 REM CHANGE LINE 1940
 90 REM AS NEEDED.
100 REM
110 REM OF COURSE, YOU SHOULD
120 REM DO THIS BEFORE YOU
130 REM START BUILDING THE
140 REM FILE. OTHERWISE,
150 REM INITIALIZING A NEW DIM
160 REM ARRAY WILL DESTROY ANY
170 REM EXISTING DATA.
180 REM
190 REM PROGRAM WRITTEN BY LEO
200 REM FOSS, OCTOBER 12,1984.
210 REM LET ME KNOW IF YOU HAVE
220 REM PROBLEMS OR
230 REM SUGGESTIONS.
240 SLOW
250 CLS
260 LET Z$="AUTO RECORD AUTO RE
CORD AUTO RECORD AUTO RECORD "
270 FOR F=1 TO 37
280 PRINT AT 10,10;Z$(F TO F+11
)
290 NEXT F
300 FOR F=1 TO 11
310 PRINT AT 10,11-F,Z$(13 TO 1
7),AT 10,F+14,Z$(17 TO 23)
320 NEXT F
330 PRINT AT 10,0;"UTO ";AT 10
26;" RECOR";AT 10,0;"TO ";AT 10
27;" RECO";AT 10,0;"O ";AT 10,28
;" REC";AT 10,0;" ";AT 10,29;" R
E";AT 10,0;AT 10,30;" R";AT 10,0
;AT 10,31;" "
340 CLS
350 PRINT AT 0,13;"MENU"
360 LET D=0
370 PRINT AT 4,0;"1. INITIALIZA
TION ROUTINE;"
380 PRINT AT 6,0;"2. UPDATE AUT
O RECORD;"
390 PRINT AT 8,0;"3. FULL DITA
T REPORT."
400 PRINT AT 10,0;"4. FOR PARTI
AL REPORT."
410 PRINT AT 12,0;"5. FOR MONTH
LY AVERAGES."
420 PRINT AT 14,0;"6. TO CORREC
T A RECORD."
430 PRINT AT 16,0;"7. TO SAVE A
RECORD WITH DATA."
440 PRINT AT 18,0;"8. FOR INSTR
UCTIONS."
450 INPUT A
460 IF A=3 THEN GOTO 0730
470 IF A=1 THEN GOTO 1310
480 IF A<>2 THEN GOTO 0510
490 IF I=0 THEN GOTO 0590
500 GOTO 0570
510 IF A=4 THEN GOTO 0990
520 IF A=5 THEN GOTO 1200
530 IF A=6 THEN GOTO 1470
540 IF A=7 THEN GOTO 2050
550 IF A=8 THEN GOTO 2120
560 GOTO 0240
570 REM UPDATE RECORD
580 FOR I=1 TO SIZE
590 CLS
```

```
 600 IF I>2 THEN PRINT AT 1,0,"L
AST DATE IN RECORD. ";D$(I-1)
 610 PRINT AT 4,0,"ON WHAT DAY W
AS FUEL","PURCHASED (DDMMMYY) ?"
 620 INPUT S$
 630 IF LEN S$<>7 THEN GOTO 0950
 640 LET D$(I)=S$
 650 PRINT AT 4,0,"WHAT WAS THE
ODOMETER READING","ON ";S$(3 TO
5);" ";S$(1 TO 2);", 19";S$(6 TO
 7);" ?      "
 660 INPUT K(I)
 670 PRINT AT 4,0 "HOW MANY LITR
ES WERE PURCHASED","ON ";S$(3 TO
 5);" ";S$(1 TO 2);", 19";S$(6 T
O 7);" AT ODOMETER","READING ";
K(I);" ?"
 680 INPUT L(I)
 690 PRINT AT 16,0,"MORE DATA (Y
/N) ?"
 700 INPUT A$
 710 IF A$="Y" THEN NEXT I
 720 GOTO 0250
 730 REM FULL OUTPUT REPORT
 740 LET Z=2
 750 CLS
 760 PRINT PT 20,1;"DATE";AT 20,
13;"KM",AT 20,21;"MPG";AT 20,27,
"LIT./"
 770 SCROLL
 780 PRINT AT 20,11;"DRIVEN";AT
20,27,"100KM"
 790 SCROLL
 800 SCROLL
 810 FOR J=Z TO SIZE
 820 IF K(J)=0 THEN GOTO 0920
 830 LET KM=INT (K(J)-K(J-1))
 840 LET M$=STR$ (INT ((KM+.621
/L(J)*.2201)*10 /10)
 850 LET L$=STR$ (INT (L(J)*100
KM*10)/10)
 860 IF INT VAL M$=VAL M$ THEN L
ET M$=M$+".0"
 870 IF INT VAL L$=VAL L$ THEN L
ET L$=L$+".0"
 880 PRINT AT 20,0;D$(J);AT 20,1
2;KM;AT 20,21;M$;AT 20,28;L$
 890 PRINT AT 21,31;
 900 SCROLL
 910 NEXT J
 920 SCROLL
 930 PRINT AT 21,0;"PRESS ANY KE
Y TO RETURN TO MENU."
 940 IF INKEY$<>"" THEN GOTO 034
0
 950 GOTO 0940
 960 PRINT AT 8,0;"DATE INCORREC
TLY FORMATTED.","ENTER DATE AGAI
N."
 970 PAUSE 60
 980 GOTO 0590
 990 REM PARTIAL REPORT
1000 CLS
1010 IF I<2 THEN PRINT AT 10,0 "
NOT ENOUGH DATA FOR PARTIAL","RE
PORT."
1020 IF I<2 THEN GOTO 0920
1030 PRINT AT 4,5,"PARTIAL REPOR
T ROUTINE"
1040 PRINT AT 6,0;"THIS ROUTINE
WILL PRINT OUT A"
1050 PRINT "REPORT ON THE LAST N
 ENTRIES OF"
1060 PRINT "THE DATA FILE, WHERE
 N IS"
1070 PRINT "GREATER THAN 1 AND L
ESS THAN ";I
1080 PRINT
1090 PRINT "FOR EXAMPLE, TO SEE
THE LAST 10"
1100 PRINT "ENTRIES (AND ANALYSI
S),"
1110 PRINT "ENTER ""10"". (UNLES
S, OF"
1120 PRINT "COURSE, YOU HAVE LES
S THAN 10"
1130 PRINT "ENTRIES TO START WIT
H.)"
1140 PRINT AT 20,0;"HOW MANY ENT
RIES DO YOU WANT"
1150 PRINT "TO SEE ?"
1160 INPUT D
1170 IF D<1 OR D>(I-1) THEN GOTO
 0990
1180 LET Z=I-D+1
1190 GOTO 0750
1200 REM MONTHLY AVERAGES
1210 CLS
1220 LET KM=K(1)
1230 LET LIT=L(1)
1240 PRINT AT 20,3;"MONTHLY AVER
AGES"
1250 SCROLL
1260 SCROLL
1270 PRINT AT 20,0;"MONTH";AT 20
,9,"AVERAGE";AT 20,20,"AVERAGE"
1280 SCROLL
1290 PRINT AT 20,11,"MPG";AT 20,
20,"LT/100KM"
1300 SCROLL
1310 SCROLL
1320 FOR P=1 TO SIZE
1330 IF K(P)=0 THEN GOTO 0920
1340 IF D$(P,3 TO 7)=D$(P+1,3 TO
 7) THEN GOTO 1440
1350 LET M$=STR$ (INT ((KM+.621
/(LIT*.2201)*10)/10)
1360 LET L$=STR$ (INT (LIT*100/K
M*10)/10)
1370 IF INT VAL M$=VAL M$ THEN L
ET M$=M$+".0"
1380 IF INT VAL L$=VAL L$ THEN L
ET L$=L$+".0"
1390 PRINT AT 20,0,D$(P,3 TO 7),
AT 20,10;M$,AT 20,22;L$;AT 21,31
;
1400 SCROLL
1410 LET KM=K(P)-(K(P-1))
1420 LET LIT=L(P)
1430 NEXT P
1440 LET KM=KM+(K(P+1)-K(P))
1450 LET LIT=LIT+L(P+1)
1460 NEXT P
1470 REM CORRECTION ROUTINE
1480 CLS
1490 PRINT AT 2,5,"CORRECTION OF
 DATA"
1500 PRINT AT 5,0;"TO CORRECT AN
 ENTRY, YOU MUST","INPUT THE PRE
VIOUSLY ENTERED","DATE (EVEN IF
IT WAS ENTERED","INCORRECTLY)."
1510 PRINT
1520 PRINT "THE COMPUTER WILL PR
OMPT YOU FORTHE NEW DATE, ODOMET
ER READING","AND LITRES BOUGHT."
1530 PRINT
1540 PRINT "FOR A GIVEN RECORD,
YOU MUST","RE-ENTER ALL THREE DA
TA","ELEMENTS."
1550 PRINT ////
1560 PRINT "WHAT DATE WAS ENTERE
D FOR THE","RECORD YOU WISH TO C
ORRECT ?","(DDMMMYY)"
1570 INPUT E$
1580 CLS
1590 PRINT AT 10,3;"NOW SEARCHIN
G FOR ";E$
```

```
1600 FOR M=1 TO SIZE
1610 IF E$=D$(M) THEN GOTO 1640
1620 IF K(M)=0 AND L(M)=0 THEN G
OTO 1880
1630 NEXT M
1640 CLS
1650 LET D$(M)=E$
1660 PRINT AT 4,15;"
"
1670 PRINT " NEW DATE
"
1680 PRINT AT 6,15;"
"
1690 PRINT AT 5,16;D$(M,3 TO 5 )
" ";D$(M,1 TO 2);",";" 19";D$(M,
6 TO 7)
1700 PRINT AT 10,19;"
"
1710 PRINT " ODOMETER:
"
1720 PRINT AT 12,19;"
"
1730 PRINT AT 16,19;"
"
1740 PRINT "   LITRES:
"
1750 PRINT AT 18,19;"
"
1760 PRINT AT 11,20;K(M)
1770 PRINT AT 17,20;L(M)
1780 PRINT AT 20,0;"ENTER ODOMET
ER READING."
1790 INPUT E
1800 LET K(M)=E
1810 PRINT AT 20,0;"ENTER NUMBER
 OF LITRES BOUGHT."
1820 PRINT AT 11,20;E
1830 INPUT E
1840 LET L(M)=E
1850 PRINT AT 17,20;E
1860 PRINT AT 20,0;"
1870 GOTO 0920
1880 CLS
1890 PRINT AT 10,4;"""";E$ " " N
OT FOUND."
1900 GOTO 0920
1910 REM INITIALIZATION ROUTINE
1920 REM CHANGE "SIZE" TO FIT
          MEMORY AVAILABLE
1930 LET SIZE=100
1940 REM D$=DATE FILE
1950 DIM D$(SIZE 7)
1960 REM K=KILOMETER FILE
1970 DIM K(SIZE)
1980 REM L=LITRE FILE
1990 DIM L(SIZE)
2000 LET B=1
2010 LET C=1
2020 LET I=0
2030 PRINT AT 4,0;"
2040 GOTO 0450
2050 CLS
2060 PRINT AT 10,0;"START RECORD
ER. PRESS ANY KEY"
2070 PRINT "WHEN READY."
2080 IF INKEY$="" THEN GOTO 2080
2090 CLS
2100 SAVE "AUTO RECORD"
2110 GOTO 0240
2120 REM INSTRUCTIONS
2130 CLS
2140 PRINT TAB 8;"INSTRUCTIONS
2150 PRINT
2160 PRINT "THIS PROGRAM KEEPS A
 RECORD OF"
2170 PRINT "GASOLINE PURCHASES A
ND PERFORMS"
2180 PRINT "SOME BASIC COMPUTATI
ONS FOR"
2190 PRINT "ANALYSIS."
2200 PRINT
2210 PRINT "BE CAREFUL TO INPUT
DATES IN THEFORM OF ""DDMMMYY"".
 E.G. JUNE"
2220 PRINT "16, 1983 SHOULD BE E
NTERED AS"
2230 PRINT """16JUNE83"". USE LE
ADING ZEROS,"
2240 PRINT "SUCH AS ""07JUN83"" ."
2250 PRINT
2260 PRINT "SEE ALSO THE REM LIS
TING AT"
2270 PRINT "LINES 1-22 FOR INFO
ON PROGRAM"
2280 PRINT "MODIFICATION."
2290 PRINT AT 20,0;"PRESS ANY KE
Y TO RETURN TO MENU."
2300 IF INKEY$<>"" THEN GOTO 0340
2310 GOTO 2300
```

PRINT FACILITIES

In the previous two issues I demonstrated two print routines, one in basic and the equivalent in machine code. The next exploration of Sinclair Basic leads us through Print AT and TAB.

First off let's do TAB

Tab requires an argument of either a number or a variable but can also take a mathematical expression. I.e..Tab 5; Tab c; or Tab (rnd * 5 +a and a=1)). You use tab to set your print position on a line for up to 32 positions accross. In some systems you can put- Tab 128 which would place your print position 4 lines down and in the 0 column. Sinclair basic does not allow this. The best use of this facility is to set up a print position on a line in such programs as accounting etc.... Do not forget to put in the semi-colon at the end of the argument.

The next facility is Print AT. This fuction has the most wide ranging use of all the print statements. Print AT requires 2 arguments which identify, in the first position the line number from 0 to 21, and in the second position the column number from 0 to 31. These arguments can again take the form of numbers, variables, or mathematical formula. It's best use is to identify print positions anywhere on the screen for the Inkey$ function. (i.e. cursor control).

It should be noted that what you wish to have printed on the screen does not necessarily need to follow either of the print statements. As a matter of fact in many cases the program itself is designed to calculate the position and the actual printing may be scattered throughout the program.

You should also know that both facilities have an error break if the

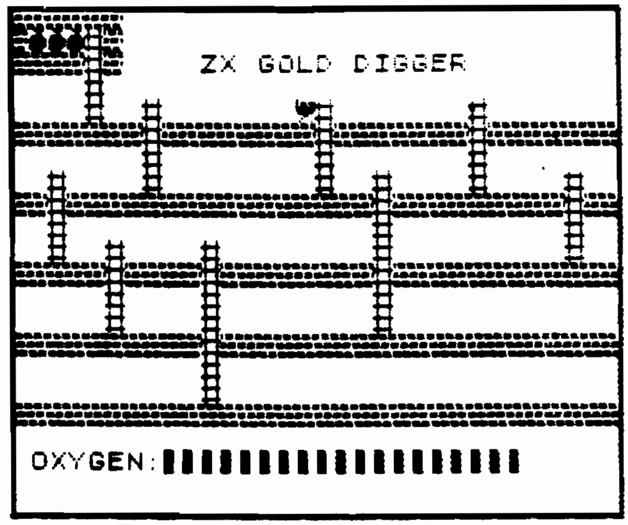
arguments go out of the bounds of the display file. To illustrate the basic function of these print facilities, you will find a short basic program.

```
Print TAB
10 For a = 1 to 40
20 Print Tab a;"t"
30 Next a
40 rem you should get an error when the
Tab position reaches 32
PRINT AT
50 For a= 1 to 22
60 For b = 1 to 31
70 Print At a,b;"s"
80 Next b
90 Next a
100 Rem you should get an error when a =
22
```

Of course these small programs do nothing other than print to the screen using VERY elimentary functions and arguments. However the possibility is there to use complex programming principles and make these two functions do rather special things. I will leave these to your imaginations. To learn more about these prints, break into a basic program that you may have and examine the print functions being used. I am reasonably sure that with a little patience you could probably improve on the method being utilized. If not, then study it carefully and find out how it works. You may be able to use it in your own program development.

P.S To continue the program after the first error, type Goto 50

The Old Wizzard---by J Turner
(using the Top Drawer program)



ZX Gold Digger
for the 2068

```
   5 REM ************************
  10 REM *T/S 2068 GOLD DIGGER*
  20 REM ************************
  25 GO SUB 900: GO SUB 990
  30 GO SUB 100
  35 GO SUB 200
  40 GO SUB 400
  45 GO SUB 300
  55 IF INKEY$="0" THEN GO SUB 5
00
  60 IF A=C AND B=D THEN PAUSE 3
00: GO TO 25
  80 GO TO 40
  90 INK 7: PAPER 0: BORDER 0: C
LS
 100 FOR F=5 TO 17 STEP 3: PRINT
 AT F,0; INK 2;"▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀
▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀": PRINT AT F+1,
0; INK 2;"
                ": NEXT F
 110 DATA 2,4,5,7,5,16,5,24,8,2,
8,19,8,29,11,5,11,10,11,19,14,10
,14,25
 120 PRINT AT 0,0; INK 2;"▀▀▀▀▀▀
";AT 1,0;"▀     ▀";AT 2,0;"▀▀▀▀▀▀
"
 130 RESTORE 110: FOR Q=1 TO 11:
 READ A,B: PRINT AT A,B; INK 4;"
#";AT A-1,B;"#";AT A+1,B;"#";AT
A+2,B;"#": NEXT Q
 140 PRINT AT 1,1; INK 6;"●●●"
 150 INK 2: PLOT 0,0: DRAW 255,0
: DRAW 0,175: DRAW -255,0: DRAW
0,-175: PLOT 1,1: DRAW 253,0: DR
AW 0,173: DRAW -253,0: DRAW 0,-1
73: INK 7
 160 PRINT AT 2,10; INK 2;"ZX GO
LD DIGGER"
 190 RETURN
 200 REM ***VARIABLES***
 210 LET A=16: LET B=15
 220 PRINT AT A,B; OVER 1; INK 4
;"$"
 230 LET C=4: LET D=15
 240 PRINT AT C,D; OVER 1; INK 4
;"♥"
 250 LET CA=0: LET S=1
 260 LET O$="▌▌▌▌▌▌▌▌▌▌▌▌▌▌▌▌▌▌▌▌
▌▌▌": LET OX=20
```

```
 290 RETURN
 300 REM **MOVE MAN**
 310 PRINT AT A,B; OVER 1; INK 4
;"☠"
 330 LET B=B+(INKEY$="8" AND ATT
R (A,B+1)<>2)-(INKEY$="5" AND AT
TR (A,B-1)<>2)
 350 LET A=A+(INKEY$="6" AND ATT
R (A+1,B)=4)-(INKEY$="7" AND ATT
R (A-1,B)=4)
 380 PRINT AT A,B; OVER 1; INK 4
;"☠"
 390 RETURN
 400 REM **MOVE BEAST**
 405 LET OX=OX-.1: GO SUB 800
 410 PRINT AT C,D; OVER 1; INK 4
;"☠"
 430 LET D=D+(D<B AND ATTR (C,D+
1)<>2)-(D>B AND ATTR (C,D-1)<>2)
 450 LET C=C+(C<A AND ATTR (C+1,
D)=4)-(C>A AND ATTR (C-1,D)=4)
 460 GO TO 480
 470 LET D=D+(D<15)-(D>=15)
 480 PRINT AT C,D; OVER 1; INK 4
;"☠"
 483 IF A=16 AND B=1 AND CA=1 TH
EN GO SUB 750
 485 IF ATTR (C+1,D)=6 THEN GO S
UB 600
 487 IF A=1 AND B=4 AND CA=0 THE
N GO SUB 700
 490 RETURN
 500 REM **DIG HOLE**
 505 IF A>14 THEN RETURN
 510 PRINT AT A,B; OVER 1; INK 4
;"☠"
 520 PRINT AT A+1,B; INK 6;" ";A
T A+2,B;" "
 530 LET B=B+1
 540 PRINT AT A,B; OVER 1; INK 4
;"☠"
 590 RETURN
 600 REM **BEAST DROP**
 610 PRINT AT C,D; OVER 1; INK 1
;"☠"
 620 LET C=C+1
 630 PRINT AT C,D; OVER 1; INK 1
;"☠"
 640 IF ATTR (C+1,D)<>2 THEN GO
TO 610
 690 RETURN
 700 REM **CARRY GOLD**
 710 PRINT AT 1,10; INK 2; PAPER
 7; FLASH 1;"● CARRYING ●"
 720 LET CA=1
 740 RETURN
 750 LET S=S+1
 760 LET CA=0  PRINT AT 18,6; IN
K 6;"●"
 770 PRINT AT 1,10;"
"
 790 RETURN
 800 REM **OXYGEN GAUGE**
 810 IF OX<=0 THEN PAUSE 300  GO
 TO 25
 840 PRINT AT 19,1; INK 2;"OXYGE
N:"; PAPER 3; INK 5;O$( TO OX);
PAPER 0;"  "
 890 RETURN
 900 REM ****START****
 910 PAPER 4: CLS   PAPER 0
 920 PRINT AT 10,9; PAPER 7; FLA
SH 1; INK 4;"PUSH ANY KEY"
 930 PRINT AT 5,10; PAPER 7; INK
 4;"GOLD DIGGER"
 940 IF INKEY$="" THEN GO TO 940
 950 CLS
 980 RETURN
 990 RESTORE 1000: FOR Q=1 TO 5
 READ Q$: FOR N=0 TO 7: READ R:
POKE USR Q$+N,R: NEXT N: NEXT Q
1000 DATA "A",187,187,0,221,221,
0,238,238
1010 DATA "B",24,60,24,60,90,24,
36,66
1020 DATA "C",128,183,187,255,12
6,24,36,66
1030 DATA "D",30,12,62,127,127,1
27,126,60
1050 DATA "H",66,66,255,66,66,66
,255,66
1090 RETURN
```

THE OBJECT OF THE GAME IS TO GET THE GOLD BAGS AT THE TOP OF THE SCREEN.
YOU MUST OF COURSE AVOID THE MONSTER OR DIG HOLES THAT THE MONSTER WILL FALL INTO.
USE THE ARROW KEYS TO MOVE AND 0 TO DIG A HOLE. BEWARE OF YOUR OXYGEN LEVELS.

TYPED IN AND PRESENTED BY R. MULDER

Lunar Lander

```
   1 REM
```

Lunar Lander
by Jim Turner

```
  10 PRINT AT 10,10;"PLEASE WAIT
": GO SUB 7000
  20 INK 6: PAPER 0: BORDER 0: C
LS
  30 INPUT "(K)EYBOARD OR (S)TIC
K?";Z$: IF Z$="s" OR Z$="k" THEN
 GO TO 50
  40 GO TO 30
  50 LET sub=0+(4000 AND Z$="s")
+(4500 AND Z$="k")
  60 IF Z$="s" THEN PRINT AT 21,
0;"Use right joystick port": BEE
P .5,20: PAUSE 100: CLS : GO TO
70
  62 IF Z$="k" THEN PRINT AT 10,
0;"<""8""-""5""> and ""0"" to fi
re engine": BEEP .5,0: PAUSE 200
: CLS : GO TO 70
  70 INPUT "Instructions?(Y OR N
)";Z$: IF Z$="y" THEN GO TO 500
  80 CLS : GO TO 600
 500 CLS : PRINT "   You are the
 commander of the lunar module m
aking its decent  to the lunar b
ase (HIJKLLLKNA)"'"   Your inst
ruments show all thepertinent da
ta... you just       have to land
.  It's not so easy."
 510 PAUSE 0: CLS
```

PAGE DESIGNER

```
a-ARC B TO E  + OR - IN RAD.S
b-BEGIN LINES AND ARCS
B-CHANGE BORDER COLOUR
c-CIRCLE, CENTER ON CURSOR DOT
d-DRAW WITH CURSOR(DOTS IN FAST)
e-END POINT OF A DRAW OR ARC
h-THIS HELP LIST
I-INK COLOUR CHANGE
l-LINE BETWEEN LAST B&E
M-INVERSE SCREEN
p-PRINTS CHARACTERS AT CURSOR
P-PAPER COLOUR CHANGE
q-PLOT SETS OVER TO 0
r-RUBOUT SETS OVER TO 1
s-STOP DRAWING & UNPLOT DRAW
S-SWITCH SCREENS
T-TO MIX WITH SCREEN
w-WIPE SCREEN CLEAR
x-ENABLE BREAK OR STOP
z-COPY SCREEN TO PRINTER
5678-MOVE CURSOR
SHIFT 5678-FAST MOVE, OR DOTS
```

```
   1 REM [redacted]
            BY
            JOHN DUNNING
   4 CLEAR 37650
   6 REM Everything in inverse
         is optional help section
  10 GO SUB 9000
  15 GO TO 100
  20 REM  MOVING CURSOR
  22 IF INKEY$="5" AND X>0 THEN
LET X=X-1
  24 IF INKEY$="8" AND X<255 THE
N LET X=X+1
  26 IF INKEY$="6" AND Y>0 THEN
LET Y=Y-1
  28 IF INKEY$="7" AND Y<175 THE
N LET Y=Y+1
  30 PLOT OVER C;X,Y: PAUSE 0
  32 PLOT OVER D;X,Y
  33 IF INKEY$<"5" THEN GO SUB 3.
20
  34 IF INKEY$<"9" THEN GO TO 22
  36 RETURN
 100 REM [redacted]
          (Checks keyboard)
 102 IF INKEY$="r" THEN LET I=1:
LET C=0
 104 IF INKEY$="q" THEN LET I=0:
LET C=1
 106 IF INKEY$="b" THEN LET Y1=Y
: LET X1=X
 110 IF INKEY$="e" THEN LET X2=X
: LET Y2=Y
 114 IF INKEY$="l" THEN DRAW OVE
R I;X1-X2,Y1-Y2
 116 IF INKEY$="c" THEN INPUT "R
ADIUS? ";R: CIRCLE OVER I;X,Y,R
 120 IF INKEY$="a" THEN : INPUT
"RADIUS OF ARC (+ OR - PI = SIMI
CIRCLE) ";R: DRAW OVER I;X1-X2,Y
1-Y2,R
 126 IF INKEY$="s" THEN LET D=1
 128 IF INKEY$="d" THEN LET D=0
 130 IF INKEY$="p" THEN GO SUB 5
00
 132 GO SUB 20
 134 IF INKEY$>"£" THEN GO TO 10
2
 136 IF INKEY$="W" THEN CLS
 138 IF INKEY$="X" THEN ON ERR R
ESET
 140 [redacted]
 142 IF INKEY$="P" THEN INPUT "P
APER COLOUR? ";A: PAPER A
 144 IF INKEY$="I" THEN INPUT "I
NK COLOUR? ";A: INK A
 146 IF INKEY$="B" THEN INPUT "B
ORDER COLOUR? ";A: BORDER A
 148 IF INKEY$="S" THEN GO SUB 7
00
 150 IF INKEY$="M" THEN GO SUB 8
00
 152 IF INKEY$= [illegible] THEN INPUT "T
ITLE? ";A$: SAVE A$SCREEN$
 154 IF INKEY$="T" THEN GO SUB 9
00
 178 GO SUB 20
 180 GO TO 100
 320 REM [redacted]
          (Steps by 8s or dashes)
 322 IF INKEY$=CHR$ 8 AND X>7 TH
EN LET X=X-8
 324 IF INKEY$=CHR$ 9 AND X<248
THEN LET X=X+8
 326 IF INKEY$=CHR$ 10 AND Y>7 T
HEN LET Y=Y-8
 328 IF INKEY$=CHR$ 11 AND Y<168
THEN LET Y=Y+8
 330 PLOT OVER C;X,Y: PAUSE 0
 332 PLOT OVER D;X,Y
 334 IF INKEY$<"5" THEN GO TO 32
2
 336 RETURN
 400 REM [redacted]
 500 REM [redacted]
          (PRINT AT Y,X;" ")
 504 INPUT "CHARACTER(S)? ";A$
 506 PRINT OVER I;AT FN Y(Y),FN
X(X);A$
 510 RETURN
 600 REM [redacted]
 602 GO SUB 400
 604 GO TO 100
 700 REM [redacted]
 702 INPUT "COPY FROM? (0 TO 3)(
0=SCREEN) ";S
 704 INPUT "COPY TO? (0 TO 3)(0=
SCREEN) ";F
 706 IF S=0 THEN LET S=16384: GO
TO 710
```

```
600 REM [redacted]
602 PRINT AT h2,15;p$
610 GO SUB 1000: GO SUB 1500:
620 GO SUB 2000
630 GO TO 610
1000 REM [redacted]
1010 IF h1=h2 AND q$=p$ THEN PAU
SE 2: GO TO 1040
1020 PRINT AT h1,15;" "
1022 IF h<5 OR h>2150 THEN GO TO
 3000
1024 PRINT AT h2,15; INK 5;p$
1030 LET q$=p$: LET h1=h2
1040 RETURN
1500 REM [redacted]
1510 PRINT AT 21,0;m$(pos-15 TO
pos+16)
1520 LET pos=pos+sp: LET dr=dr+g
: LET h=h-dr: LET h2=21-(h/100)
1525 LET pos=pos+((LEN m$-40) AN
D pos<=16)-((LEN m$-40) AND pos>
=(LEN m$-16))
1530 GO SUB sub: RETURN
2000 PRINT AT 0,0; INK 7;"ALTITU
DE:";INT h;" "
2010 PRINT AT 0,24; INK 7;"FUEL:
";f;" "
2020 PRINT INK 7;AT 2,0;"Down Ra
nge:";AT 3,3;("<" AND pos>LEN m$
/2);ABS INT ((LEN m$/2)-pos);(">
" AND pos<LEN m$/2);" ";AT 2,27;
"ROD";AT 3,27;(" " AND ABS dr<10
); FLASH (1 AND dr<0);ABS (INT d
r); FLASH 0;"  "
2999 RETURN
3000 REM [redacted]
3010 IF pos-LEN m$/2<=3 AND pos-
LEN m$/2>=-1 AND dr<=3 THEN PRIN
T AT 21,15;"U": SOUND 7,63: PAUS
E 120: GO TO 3400
3012 IF h>2150 THEN CLS : BEEP .
5,-20: PRINT AT 10,0; FLASH 1;"E
scape Velocity-Mission Aborted":
 PAUSE 60: GO TO 3500
3015 SOUND 6,6;7,7;8,16;9,16;10,
16;12,120;13,8
3020 LET b=0: FOR x=1 TO 20:
3030 SOUND 6,x+10
3040 PLOT OVER 0;124+((RND*20-10
)*1+(2 AND RND>.7)),((RND*15)*1+
(3 AND RND>.8))
3050 LET b=b+1: IF b>1 THEN BORD
ER 0: LET b=0: PAUSE 2
3060 BORDER b+6
3070 PAUSE 2: NEXT x
3080 SOUND 7,63;13,0:
3090 GO TO 3450
3400 CLS : PRINT AT 4,5;"Success
ful landing....";TAB 10; INVERS
E 1;"RATING ";INT (f*ABS (pos+2)
-LEN m$/2*ABS dr-3)
3410 GO TO 3500
3450 CLS : PRINT AT 4,4; FLASH 1
;"Crash landing at ";dr;" fps":
BEEP .75,-30
3500 INPUT "Touch ""ENTER"" to g
o again";z$: RESTORE : BORDER 0:
 CLS : GO TO 7000
4000 REM [redacted]
4010 LET but=0: IF STICK (1,2)=0
 AND STICK (2,2)=0 OR f<=0 THEN
PAUSE 2: GO TO 4040
4020 LET st= STICK (1,2): LET bu
t= STICK (2,2)
4030 LET sh=sh+(st>=4 AND st<=6
AND sh<3)-(st>=8 AND st<=10 AND
sh>1):
4035 IF but=1 THEN LET sp=sp+(.5
 AND sh=1)-(.5 AND sh=3): LET dr
=dr-(1.5 AND (sh=1 OR sh=3))-(2.
5 AND sh=2): LET f=f-2
4040 LET p$=(s$(sh) AND but=0)+(
f$(sh) AND but=1):
4045 IF but=0 THEN SOUND 7,63
4050 IF but=1 THEN SOUND 6,6;7,7
;8,15;9,15;10,15
4060 RETURN
4500 LET but=0: IF INKEY$="" OR
f<=0 THEN PAUSE 2: GO TO 4034
4505 IF INKEY$="0" THEN LET but=
1
4510 LET sh=sh-(INKEY$="8")+(INK
EY$="5"): IF sh<1 THEN LET sh=1
4520 IF sh>3 THEN LET sh=3
4530 GO TO 4034
5010 PRINT AT 21,10; INVERSE 1;"
Press any Key": PAUSE 0
7000 GO SUB 9000: GO SUB 8000
7010 LET p$="O": LET h=2100: LET
 sp=0: LET pos=(LEN m$-40)*RND
7020 LET h2=21-(h/100): LET h1=h
2: LET dr=0: LET g=.5: LET sh=2
7100 DIM s$(3): LET s$(1)="S": L
ET s$(2)="O": LET s$(3)="Q"
7110 DIM f$(3): LET f$(1)="T": L
ET f$(2)="P": LET f$(3)="R"
7190 LET q$=p$: LET f=100
7999 RETURN
8000 DIM b$(32): FOR x=1 TO 32:
LET b$(x)=CHR$ (144+(RND*7)): NE
XT x: LET a$=b$
8010 LET a$=a$+a$+a$
8020 LET a$=a$+a$+a$
8030 LET m$=a$+"IJKLLLMN"+a$
8999 RETURN
9000 REM [redacted]
9010 FOR x=USR "a" TO USR "u"+7
9020 READ y: POKE x,y
9030 NEXT x: RETURN
9100 DATA 0,0,16,40,104,135,0,0,
0,0,0,0,50,205,0,0
9102 DATA 0,0,0,0,64,161,22,8,0,
0,0,0,128,71,56,0
9104 DATA 0,0,56,68,68,130,1,0,0
,0,120,132,130,129,0,0
9106 DATA 0,0,0,0,0,0,135,120,0,
0,0,0,16,236,3,0
9107 DATA 0,0,0,3,12,147,99,3,12
4,68,124,4,196,36,20,31
9108 DATA 0,0,0,0,48,104,164,35,
0,0,0,0,0,0,0,255
9110 DATA 0,0,0,0,14,49,70,134,0
,0,0,0,0,140,83,32
9112 DATA 16,40,40,198,56,0,0,0,
16,40,40,214,40,40,16,16
9114 DATA 228,152,136,80,96,128,
0,0,228,152,136,88,116,10,6,1
9116 DATA 39,25,17,10,6,1,0,0,39
,25,17,26,46,81,96,128
9118 DATA 16,40,40,198,56,40,68,
255
```

```
 708 IF S>0 THEN LET S=(S-1)*691
1+37700
 710 IF F=0 THEN LET F=16384: GO
 TO 714
 712 IF F>0 THEN LET F=(F-1)*691
1+37700
 714 POKE 65401,FN H(S)
 716 POKE 65400,FN L(S)
 718 POKE 65403,FN H(F)
 720 POKE 65402,FN L(F)
 724 RANDOMIZE USR 65420
 730 RETURN
 800 REM [redacted]
 806 POKE 65402,0
 808 POKE 65403,64
 810 RANDOMIZE USR 65433
 812 RETURN
 900 REM [redacted]
 902 INPUT "WHICH ONE? (1 2 3) "
;S
 903 LET S=(S-1)*6911+37700
 904 POKE 65400,FN L(S)
 906 POKE 65401,FN H(S)
 908 POKE 65402,0
 910 POKE 65403,64
 912 RANDOMIZE USR 65453
 918 RETURN
9000 REM [redacted]
          (Sets variables)
9002 LET X=127: LET Y=87: LET Y1
=0: LET X1=0: LET Y2=0: LET X2=0
9004 LET I=0: LET C=1  : LET D=1
9006 ON ERR GO TO 600
9008 BORDER 0
9010 POKE 23562,1
9012 DEF FN X(X)=X/8
9014 DEF FN Y(Y)=21-Y/8
9038 [redacted]
9060 FOR A=65420 TO 65477
9062 READ B
9064 POKE A,B
9066 NEXT A
9078 REM [redacted]
       FROM IS IN 65400&65401
       TO IS IN 65403&65404
9080 DATA 1,255,26,42,120,255,23
7,91,122,255,237,176,201
9081 REM [redacted]
9082 DATA 42,122,255,1,255,23,12
6,47,119,62,0,11,35,184,32,246,1
85,32,243,201
9083 REM [redacted]
       FROM IN 65400&65401
9084 DATA 42,122,255,[illegible],20,
255,1,255,23,26,182,119,19,62,0,
11,35,184,32,245,185,32,242,201
9086 DEF FN L(A)=A-INT (A/256)*2
56
9088 DEF FN H(A)=INT (A/256)
9090 RETURN
```

THERE ARE MANY TRICKS YOU CAN USE WITH THIS PROGRAM, SEE WHICH YOU CAN DISCOVER.
HAVE FUN!

FOR SALE!

This is a sacrifice sale in order to stay on top of my personal finance problems and to continue to give the Users group the benefit of hardware and software reviews in the newsletter.
This as you may well know is the opportunity to provide for a back-up to your TS1000 or ZX-81 as well as to give you a fully developed and intact mini-computer system.
This is an offer for serious bidders only and will go INTACT to the individual who provides the best bid over $150.00.
The following is a listing of the full package:

HARDWARE:

1) ZX-81
2) E-Z 60 keyboard
3) Memopak 64K
4) Realistic Minisette 9 tape recorder
5) Memopak Hi-Res Graphics package
6) MB-1 power supply (enough power for all requirements
7) Inverse video
8) UHF or composite video outputs on board
9) Reset switch
10) all cables and connectors
11) a rom board with FORTH,ASZMIC,and BASIC at the filp of a switch (plus manuals)

SOFTWARE:

GAMES:

1) BLACK CRYSTAL A 100K ADVENTURE PROGRAM
2) STAR TREK
3) DICTATOR
4)THE DAMSEL AND THE BEAST
5) INVADERS
6) CHESS
7) RED ALERT
8) MOTHERSHIP
9) MAGIC SQUARE
10) INCA CURSE
11) CRAPS
12) ALIEN SPACESHIP
13) FROGGER
14) MUNCHMATH
15) HOBBIT
16) BANDIT
17) CHECKERS
18) 3D X AND O'S
19) HIGHWAY ROBBERY
20) CITYOF XOR
21) STARBLASTERS
22) ANDIL
23) BRICK BUSTER
24) HUNT
25) PHASOR
26) SURROUND
27) TREASURE TRAILS
28) KONG
29) ZAPMAN
30) POKER
31) SCOUT FIGHTER
32) 3D ORBITER
33) CONFLICT
34) TRADER TRILOGY
35) APPROX. 25 TO 30 OTHERS

UTILITIES:

1) Z-AIDE
2) TOOLKIT
3) UU-CALC
4) FASTLOAD
5) ZXAS
6) ZX COMPILER
7) HOT Z
8) ARTIST
9) MULTIFILE AND WORD II
10) UTIL. VERS. 20.0 (OVER 40 UTIL. IN ONE)
11) ZX PRO-FILE
12) MANY OTHERS (eg. HI RES GRAPHICS, QSAVE ETC..)

LANGUAGES:

1) ZX FORTH (including devel. screens for the tree forth)
2) TINY LOGO
3) PARTIAL PASCAL
4) A NUMBER OF ASSEMBLERS

BOOKS AND MAGS:

THERE ARE MANY REFERENCE BOOKS ON PROGRAMMING FOR THE TS 1000 OR ZX-81

DON'T WAIT BUY NOW! THE ONE AND ONLY CHANCE OF A LIFE TIME.

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